Class Test (1) Examination: Fall-2024

Course Code: CIS 131

Course Title: Computer Architecture & Organization

Time: 30 Minutes **Total Marks: 15**

1.	Draw the basic organization of a computer and discuss each part of the CPU.	[5]
2.	Define the term Pixel & Bitmap. Explain how data becomes information in the computer system.	[2] [2]
3.	Let's say a color display uses 8 bits for each primary color (R, G, B) per pixel and a frame size of 1920 * 1080. a) What is the minimum size in the frame buffer bytes to store a frame? b) How long would the frame take at minimum to send over 1000 Megabit/s to a network?	 [2] [4]

Class Test (2) Examination: Fall-2024

Course Code: CIS 131

Course Title: Computer Architecture & Organization

:: 30 Minutes **Total Marks: 15**

	onsider there are 3 different processors P_1, P_2, and P_3 which are executing on the same nstruction set with the following clock rates and CPI: **a)** Which processor has the highest performance expressed in instructions per second? **b)** If the processors execute a program in 10s, find the number of cycles and the number of instructions. **c)** We are trying to reduce the time by 20% but this leads to an increase of 10% in the CPI. What clock rate should we have to get this time reduction?	[7]
2.	If the decimal value of **b** is 98, find out both the decimal and binary values of **g** and **i**.	[4]
3.	Using the complementary method, subtract 68 from 33. Show all steps of your calculation.	[4]

Processor	Clock rate	CPI
P1	2 GHz	2.0
P2	3 GHz	1.5
P3	2.5 GHz	1.8

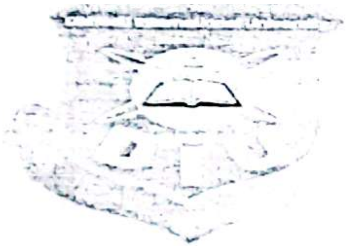
CPU = clock * cycle / clock rat

I * CPI = cycle / CPI

CPU time = CPI

CPU time = I x CPI / clock rate

clock rat



Department of Computing and Information System
Faculty of Science and Information Technology
Class Test- 01, Fall 2024
Course Code: STA 101 Course Title: Statistics I

Time: 40 minutes **Mark: 15**

Answer ALL questions. [*The figure in the right margin indicates the full marks and all portions of each question must be answered sequentially*].

1.	**Indicate whether the following variables are qualitative or quantitative (discrete or continuous) with appropriate level of measurement?** (a). The type of Smartphone brand (b). Printing mistakes of a book (c). Address (d). People's attitude towards the government (e). Height of a cricket player (f) Room Temperature (g). Smoking habit (h). The grade point average of a student (i). Quality of each student (j). Number of children per family.	[5]	CO1
2.	Study hour of 15 students in a week of SWE department are as follows: 25, 30, 34, 32, 40, 30, 39, 45, 20, 15, 12, 12, 20, 24, 37 Using the above dataset find Q_3 and interpret the result. Also show that $Q_3 = P_{75}$	[2+2]	CO2
3.	**Set P.** x_p: 4 8 10 12 18 8 **Set Q.** x_q: 10 10 11 11 12 6 **a.** Find mean, median and mode of the two sets of observations. **b.** Calculate coefficient of variation of the above datasets and compare the results.	[3+3]	CO2

$\frac{1}{n-1}(x_q - \bar{x}_b)$

Daffodil International University

Department of Computing and Information System (CIS)
Faculty of Science & Information Technology
Class test-03, Fall-2024
Course Code: STA 101, Course Title: Statistics I

Time: 40 Mints. **Marks: 15**

Answer ALL Questions

[The figures in the right margin indicate the full marks and corresponding course outcomes. All portions of each question must be answered sequentially.]

1.	A survey among 180 Computing and Information Systems students was conducted regarding their interest in Cloud Computing and Database Management Systems (DBMS). The results are summarized below. What is the probability that a student is from the Information Systems group, given that they prefer Cloud Computing?	5	CO2

Group	Cloud Computing	DBMS
Data Science	40	20
Information Systems	30	40
Software Engineering	20	30

2	A CIS student is analyzing the performance of a cloud computing platform. 30 virtual machines (VMs) are placed per hour, and the probability of a placement failing is 5%. What is the probability that, i. No VM placements fail in an hour? ii. Exactly 3 VM placements fail in an hour? iii. More than 2 VM placements fail in an hour? iv. What is the expected number of failed VM placements in a 6-hour work session?	10	CO3